

## MAS 3203 3(3,0)

### INTRODUCTION TO NUMBER THEORY

#### Instructor Information.

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**Office:** 207G MAP

**Office Hours:** 1:00pm-3:20pm (13:00-15:20) MW

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**Course Description.** The course will include the following topics: inductive reasoning, factorization, the division algorithm and congruences.

**Course Goals.** This course will provide an introduction to the ideas and methods of the properties of the integers including divisibility, congruences, quadratic reciprocity, Diophantine equations, and continued fractions.

**Prerequisites.** The prerequisite for this course is MHF 3302 (Logic and Proof in Mathematics) or consent of the instructor.

**Textbook.** The required text for this course is the book *An introduction to the theory of numbers* fifth edition, by Ivan Niven, Herbert S. Zuckerman and Hugh L. Montgomery. It is published by Wiley. The 10-digit ISBN for the book is 0-471-62546-9.

#### Course Requirements and Student Evaluation.

**Homework.** There will be four assignments given in class of problems from the text. These assignments are to be *carefully* written-up with the solutions providing detail on the solutions. While working with others is encouraged, the written form of the solution is the responsibility of each individual student. These assignments will be due on specific dates announced in class. A selection of questions determined by the instructor on each of these assignments will be graded. The total points available from these assignments will be 400 points.

**Exams.** There will be two exams during the semester. These exams will be cumulatively worth 400 points.

**Final Examination.** There will be a Final Examination given on Monday April 28, 2008 from 4:00pm-6:50pm (16:00-18:50). The final will be worth 400 points. Students must take the final examination at the scheduled place and time.

**Grading.** Grading will be done by the following schema:

Grade	Points
<i>A</i>	1080 – 1200
<i>B</i>	960 – 1079
<i>C</i>	720 – 959
<i>D</i>	600 – 719
<i>F</i>	≤ 599

Plus and minus grading will not be utilized in this course.

This course is not authorized for a grade of NC and this grade is not available in this class.

**Make-up exams.** Make-up examinations will only be given upon prior arrangement with the instructor in those cases of students that meet the criteria established in University policy for those students who are absent while representing the University.

**Main campus.** This class utilizes the Instructional Television system to enable students on branch campuses to participate. The class meets in an interactive classroom. It is necessary to speak-up so that the microphones will enable the students at the regional sites to hear your questions and answers. It is also important to be quiet during the class to keep the level of background noise at a level that permits students on other campuses to participate in the class.

Students are expected to adhere to the ideals presented in the UCF code of conduct.

**Regional sites.** Students at sites receiving classes via the Instructional Television System (ITV) are subject to the same policies, terms and conditions as all UCF students. In addition, regional administrators may apply additional policies to students taking classes at their campus. Any student in violation of these policies will be reported to the Office of Student Conduct for proper disciplinary action.

Students are expected to adhere to the ideals presented in the UCF code of conduct.

**Ethics Statement.** UCF faculty support the UCF Creed. Integrity - practicing and defending academic and personal honesty - is the first tenet of the UCF Creed. This is in part a reflection of the second tenet, Scholarship: - I will cherish and honor learning as a fundamental purpose of membership in the UCF community. - Course assignments and tests are designed to have educational value; the process of preparing for and completing these exercises will help improve your skills and knowledge. Material presented to satisfy course requirements is therefore expected to be the result of your own original scholarly efforts. Plagiarism and cheating - presenting others ideas, arguments, words or images as your own, using unauthorized material, or giving or accepting unauthorized help on assignments or tests - contradict the educational value of these exercises. Students who attempt to obtain unearned academic credentials that do not reflect their skills and knowledge can also undermine the value of the UCF degrees earned by their more honest peers. UCF faculty members have a responsibility for your education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to infringements of academic integrity. Penalties can include a failing grade in an assignment or in the course, or suspension or expulsion from the university. See <http://www.osc.sdes.ucf.edu/> for more information about UCF's Rules of Conduct.

**Academic Integrity Statement.** Plagiarism and Cheating of any kind on an examination, quiz, or assignment will result at least in an "F" for that assignment (and may, depending on the severity of the case, lead to an "F" for the entire course) and may be subject to appropriate referral to the Office of Student Conduct for further action. See the UCF Golden Rule for further information. I will assume for this course that you will adhere to the academic creed of this University and will maintain the highest standards of academic integrity. In other words, don't cheat by giving answers to others or taking them from anyone else. I will also adhere to the highest standards of academic integrity, so please do not ask me to change (or expect me to change) your grade illegitimately or to bend or break rules for one person that will not apply to everyone.

**Disability Access Statement.** The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the professor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Student Resource Center Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.

**Disclaimer Statement.** This document is furnished for student information only. It is subject to change without previous announcement.